

PATENT SPECIFICATION

DRAWINGS ATTACHED

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960,827



960,827

Date of filing Complete Specification Nov. 10, 1961.

Application Date Nov. 10, 1960.

No. 38699/60.

Complete Specification Published June 17, 1964.

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Index at acceptance: —A4 C14

International Classification: —A 47 j

COMPLETE SPECIFICATION

Improvements in or relating to Juice Extractors

We, KENWOOD MANUFACTURING (WOKING) LIMITED, a British Company, of New Lane, Havant, Hampshire, formerly of Kenwood Works, Woking, Surrey, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

THIS INVENTION relates to juice extractors of the kind commonly used for extracting juice from citrus fruits, in which, the fruit having been halved, each half is pressed against a revolving reamer which extracts the juice and pith, the extracted material falling into a strainer basket which retains the pith and allows the juice to pass through.

It has been customary to mount the reamer on a vertical spindle upstanding from the centre of the strainer basket the said basket either being stationary or having an oscillating movement about its own centre or about a point on its periphery.

It is the object of the present invention to provide an improved form of juice extractor, which is more effective in operation.

According to the present invention, a juice extractor of the kind referred to, the reamer is mounted for rotation about a horizontal axis on a spindle extending through one substantially upright wall of a strainer basket.

The strainer basket is preferably so mounted as to be caused to oscillate as the reamer rotates, the oscillation taking place about both a horizontal and a vertical axis simultaneously, preferably about a centre on the axis of the spindle and behind the reamer.

The following description of one embodiment of juice extractor according to the present invention is given by way of example in conjunction with the accompanying drawings in which:—

Figure 1 is a front elevational view of this

[Price 4s. 6d.]

embodiment of extractor according to this invention, with the reamer removed;

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Figure 2 is a plan view of this embodiment with both the reamer and drive spindle removed; and

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Figure 3 is a sectional side elevation view of the complete extractor taken along the vertical plane through the axis of the spindle.

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Referring more particularly to figure 3, the juice extractor includes a sleeve 10 adapted to fit into a horizontal drive socket of a food mixing machine, a sleeve bearing 11 clamped into sleeve 10 by grub screw 12 and a spindle 13 retained for rotation in sleeve bearing 11 by circlips 14. The spindle has a square cross-section drive dog 15. Rigidly fixed to sleeve 10 is a housing 16 (shown in skeleton) having side, back and bottom walls, the bottom wall sloping forwardly and inwardly to the centre of its front edge.

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Forward of the sleeve bearing 11, the spindle 13 carries part spherical bearing surfaces 17 and 18 and projecting generally radially outwardly intermediate these surfaces is a disc 19, which has its edge portion formed as a number of circumferentially extending undulations, the unit formed by the bearing surfaces 17 and 18 and the disc 19 being held in place on spindle 13 by means of a hexagonal bar 20 screwed onto a threaded stud at the outer end of spindle 13, the bar 20 having a circumferential groove 21 formed in the surface thereof.

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A reamer 22 having an outer surface of conventional shape is fitted onto the said bar 20. The reamer includes a central boss 25 into which a supporting sleeve 23 is fitted as a press fit, the bore of this supporting sleeve 23 having a hexagonal cross-section and being a sliding fit on the hexagonal bar 20. The supporting sleeve 23, and thus the reamer 22, are held in place on the bar 20

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by means of a circlip 26 engaging in the annular circumferential groove 21 of bar 20 and a registering groove in sleeve 23.

The extractor also includes a strainer basket

- 27 has a low front wall 28, a comparatively high back wall 29 and side walls 30 which slope upwardly rearwardly giving a generally rectangular shape in plan. The bottom 31 of the basket is perforated and the inner 10 surface of which is of upwardly concave form. The back wall 29 is apertured to receive two spaced bearing plates 32 and 33 formed with part spherical bearing surfaces 34 and 35 respectively. As shown in figure 3, these bearing surfaces co-operate with bearing surfaces 18 and 17 of spindle 13 and serve to carry the strainer basket 13 within the housing 16.

Each of the bearing plates 32 and 33 is provided with two inwardly extending round 20 projections 36 and 37, which are, as shown, angularly spaced 90° from one another, the projections on plate 32 being axially opposed to the projections on plate 33 and thus engage the disc 19 on opposite sides thereof. The 25 fixed housing 16 is provided with a lug 38 projecting from the back wall thereof and engaging a slot 39 at the centre of the back wall 29 of the basket 27 so as to hold the basket 27 against rotation with the spindle 30 13.

In use of the juice extractor, the spindle 13, reamer 22 and disc 19 are caused to rotate by means of the dog 15 engaging with the auxiliary drive socket of the food mixing 35 machine and the user forces a halved fruit, e.g. lemon, against the reamer 22. As the reamer rotates the undulations of the disc 19 co-operate with the projections 36 and 37 of bearing plates 32 and 33 and cause 40 the strainer basket 27 to oscillate both about a horizontal axis and a vertical axis on the spherical bearings provided by surfaces 17, 18 and 34, 35. This oscillating movement tends to throw any pith and pips which fall 45 into the basket towards the front thereof leaving the rear portion relatively clear for the passage therethrough of extracted juice. The juice passes through the perforations of the basket onto the bottom of the housing 16 and runs to the central front portion thereof 50 from which it flows into a suitably placed receiving container.

The disc 19 is preferably formed with at 55 least three complete undulations so that the number of oscillations of the strainer basket 27 per unit of time is greater than the number of rotations of the reamer 22 for the same unit of time. However, the disc 19 may be replaced by a simple swash-plate if a 60 slower rate of oscillation is acceptable.

One of the bearing plates 32 or 33 may be detachable for example by a bayonet fitting to enable the bearing to be taken apart for cleaning.

WHAT WE CLAIM IS:—

1. A juice extractor comprising a reamer mounted for rotation about a horizontal axis on a spindle extending through one substantially upright wall of a strainer basket.

2. A juice extractor according to claim 1, wherein the strainer basket is so mounted as to be caused to oscillate as the reamer rotates, the oscillation taking place about both a horizontal axis and a vertical axis simultaneously.

3. A juice extractor according to claim 2 wherein the centre of oscillation is on the axis of the spindle and behind the reamer.

4. A juice extractor according to claim 3, wherein the strainer basket is mounted on a part spherical bearing and means are associated with said part-spherical bearing for causing said oscillation.

5. A juice extractor according to claim 4 wherein said means comprises a swash plate co-operating with a portion connected to said part-spherical bearing.

6. A juice extractor according to claim 4, wherein said means comprises a disc mounted with its plane generally normal to the axis of said spindle and having a number of circumferentially extending undulations co-operating with projections on a portion connected to said part spherical bearing.

7. A juice extractor according to claim 6 wherein two bearing plates are carried by said substantially upright wall, such plates forming part of said part-spherical bearing and being arranged one on either side of said disc so that inwardly extending projections on said plates engage the undulations of said disc.

8. A juice extractor according to any preceding claim wherein said strainer basket has a low front wall, a higher back wall, side walls which slope upwardly from front to back and a perforated bottom the inner surface of which is of upwardly concave form.

9. A juice extractor according to any preceding claim, wherein the strainer basket is removable from the spindle.

10. A juice extractor according to any preceding claim, wherein the spindle is provided with a power drive.

11. A juice extractor according to claim 9, wherein the spindle is provided with a dog for engagement with the auxiliary drive socket of a food mixing machine.

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12. A juice extractor constructed and arranged substantially as hereinbefore described with reference to and as illustrated by the accompanying drawings.

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Leamington Spa: Printed for Her Majesty's Stationery Office by the Courier Press.—1964.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained.

FIG. 1

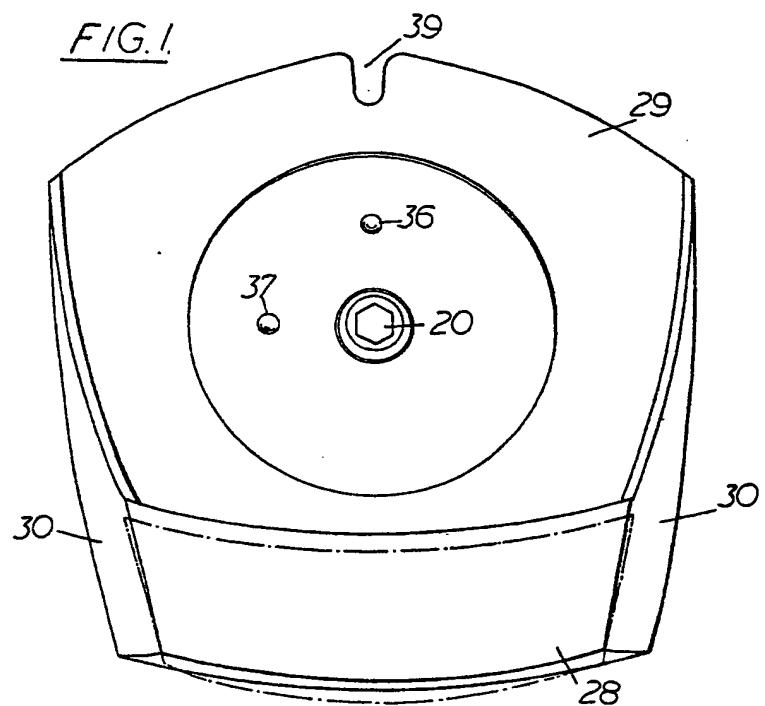
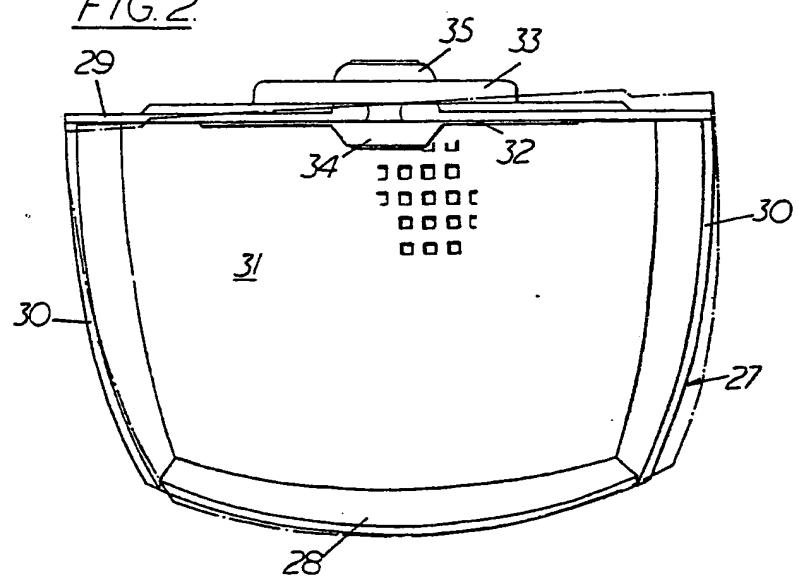


FIG. 2



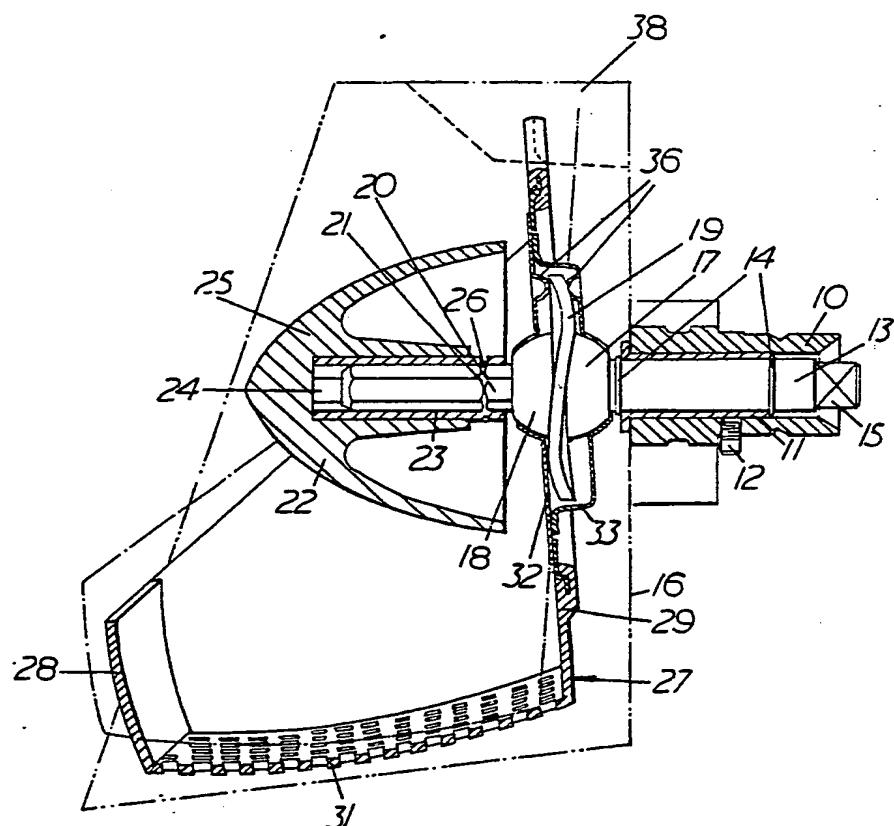
960,827 COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of
the Original on a reduced scale.*

SHEETS 1 & 2

FIG.3



960,827 COMPLETE SPECIFICATION
2 SHEETS This drawing is a reproduction of
the Original on a reduced scale.
SHEETS 1 & 2

Docket # ZTPO1P15158

Applic. #

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FIG. 3

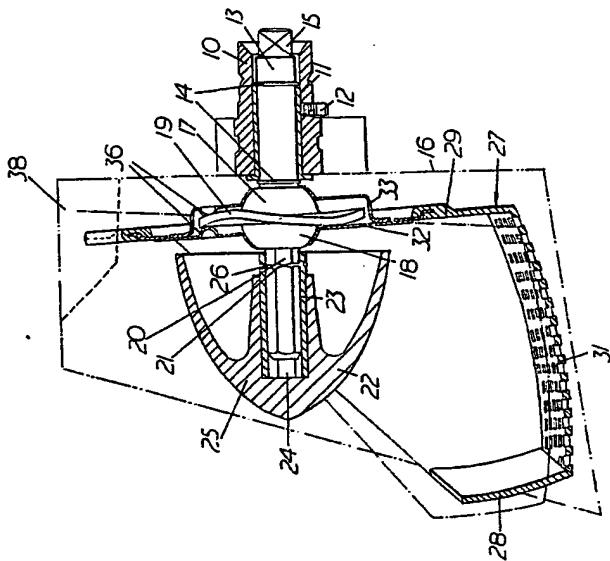


FIG. 1

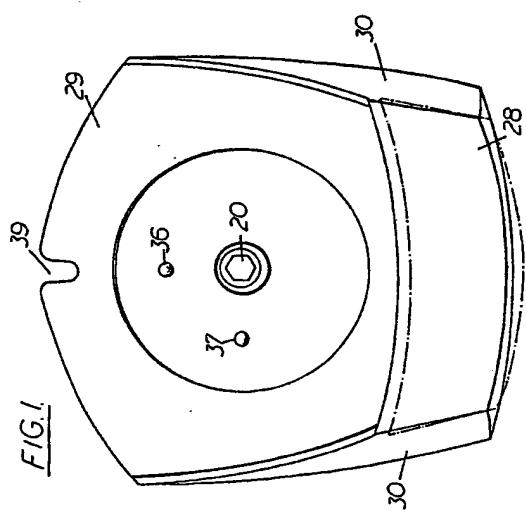


FIG. 2

